NEW SPECIES AND A NEW RECORD OF *BORDONTILLA* (HYMENOPTERA: MUTILLIDAE) FROM CHILE[1]

James P. Pitts[2]

ABSTRACT: *Bordontilla cycloflava*, *B. nigra*, *B. obscura* and *B. xanthomaculata* are newly described from Chile. *Bordontilla patagonica* is newly recorded from Chile. A key to the species of *Bordontilla* is provided.

Fritz and Martinez (1975) described *Bordontilla* as a monotypic genus in the subfamily Sphaeropthaminae. This genus includes one of the southern-most mutillids known. *Bordontilla* is characterized by the presence of a fine and distinct curved carina that separates the pronotum from the mesonotum, a strongly convex mesosoma and a prominently tuberculate clypeus. No other information on this genus has been published since the initial work.

Only females of the genus *Bordontilla* have been described. The males may have been described as *Neomutilla* Reed (1898), since only males of *Neomutilla* have been described and these occur in the same region. However, only the collection of a male and female *in copula* or host records will confirm this association. As with most mutillids known today, the natural history and host records are unknown.

Four new species of *Bordontilla* are described, illustrated and discussed below.

MATERIALS AND TERMINOLOGY

Specimens for this study were borrowed from, and are deposited in, the following collections: Canadian National Collections: Ottawa, Ontario (CNCI); J.P. Pitts Collection: Athens, Georgia (JPPC).

T2, T3, etc., denotes the second, third, etc., metasomal tergites respectively, while S2, S3, etc., signifies the second, third, etc., metasomal sternites respectively.

Bordontilla cycloflava, NEW SPECIES (Fig. 1A)

Diagnosis.—This species is readily distinguished from other females of the genus by the following characters: head and mesosoma stramineous,

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[2] University of Georgia, Department of Entomology, Athens, Georgia 30602.

metasoma piceous with one medial maculation of T2, the condition of the carina on the dorsal margin of the mesosoma and humeral carina not angulate.

Description of Female.—Coloration of head and mesosoma stramineous. S1-S2 completely and T1 stramineous basally. T2-T5 and S3-S5 piceous. T2 medially with stramineous round maculation. T6 and S6 stramineous. Legs stramineous with infuscated joints. Pubescence golden brown on vertex of head and dorsum of mesosoma. Abdominal pubescence fuscous. Legs with pale pubescence.

Clypeus with posterior border distinctly dentate, median region strongly gibbose, with a deep circular depression laterally and below antennal scape, median anterior region and lateral regions with long pale pubescence. First flagellomere longer than pedicel, and terminal flagellomere longer than preceding segment, with apex obtusely angular. Gena sparsely punctate.

Mesosoma with disk of pronotum, mesonotum, dorsal and lateral faces of propodeum, and metapleura sparsely punctate and nitid. Humeri carinate. A fine carina delimits pronotum from mesonotum and is connected by lateral carina to propodeal spiracle, indistinct just anterior to spiracle. Propodeal spiracle tuberculate. Propodeum without a distinct lateral carina posterior to propodeal spiracle. Propleuron impunctate, with long, pale, dense and decumbent pubescence. Mesopleura impunctate, anteriorly with pale decumbent pubescence.

Metasoma with T1-T2 sparsely punctate and with sparse erect pubescence. T3-T6 with larger punctation and denser pubescence. S1 with median elevated carina, notched medially. S2-S6 with punctation, last with apex weakly truncate. Pygidial area glabrous, nitid and undefined laterally.

Length.—5 mm

Male.—Unknown

Holotype, E: Chile, Malleco, Puren, Contulmo Nat. Mon., 350 m, mixed Evergreen For., FIT, 11.XII.1984-13.II.1985, Coll. S. and J. Peck (CNCI). **Paratypes, 2E:** Chile, Alto de Vilches, 70 km E Talca, 5.XII.1984-20.II.1985, Coll. S. and J. Peck (CNCI and JPPC).

Discussion.—This species is similar to *B. patagonica* with the humeral carina not angulate and the clypeus prominently tuberculate. It is similar to *B. xanthomaculata* in coloration, but differs from this species by the humeral carina, the clypeus more prominently tuberculate and second metasomal tergite with one maculation.

Etymology.—From the Greek *cyclo* "a circle" and the Latin *flava* "yellow," in reference to the stramineous coloration of the second metasomal segment.

Bordontilla nigra, NEW SPECIES (Fig. 1B)

Diagnosis.—This species is readily distinguishable from other females of the genus by the following characters: head, mesosoma and metasoma concolorous, the dorsum of mesosoma finely striate, appearing dull and humeral carina angulate.

Description of Female.—Coloration of head, mesosoma and metasoma fusco-piceous to piceous. Mandibles and flagellum fuscous. Trochanters, femora basally, tibial

spurs and tarsi infuscated testaceous. Pubescence piceous on vertex of head and dorsum of mesosoma, pale stramineous on front and lateral margins of head, laterally on mesosoma and on legs; T1, all sternites and apical fringe of T2-T5 with pale pubescence; T2-T6 with piceous erect pubescence on disk. Pubescence of legs pale.

Clypeus with posterior border distinctly dentate, median region strongly gibbose, with a deep circular depression laterally and below antennal scape, median anterior region and lateral regions, with long pale setae. First flagellomere as long as pedicel, and terminal flagellomere longer than preceding segment, with apex obtusely angular. Gena punctate and finely striate ventrally.

Mesosoma with disk of pronotum, mesonotum, dorsal and lateral faces of propodeum, and metapleura punctate and finely striate, appearing granulate and dull at low magnification. Humeri with angulate carina. A fine carina delimits pronotum from mesonotum and is connected by lateral carina to propodeal spiracle. Propodeal spiracle tuberculate. Small, glabrous, nitid region on dorsum situated medially from propodeal spiracle. Propleura punctate and finely striate with long, pale, dense and decumbent pubescence. Mesopleura punctate and finely striate, anteriorly with pale decumbent pubescence, posteriorly glabrous and nitid. Latero-posterior region of propodeum punctate, with long pubescence. Legs with dense fuscous pubescence.

Metasoma with T1-T2 sparsely punctate and with sparse erect pubescence. T3-T6 with larger punctation and denser pubescence. S1 with median elevated carina that is notched medially. S2-S6 with sparse punctation, last with apex weakly truncate. Pygidial area glabrous, nitid and undefined laterally.

Length.—6 mm

Male.—Unknown

Holotype, ♀: Chile, Cautin, 15 km NE Villarrica, Flordel Lago, 14.XII.1984-10.II.1985, Coll. S. and J. Peck (CNCI).

Discussion.—This species is similar to *B. xanthomaculata* and *B. obscura* with the angulate humeral carina. The coloration and striations of dorsum and head are different from any described species of *Bordontilla.*

Etymology.—From the Latin *nigra* "black," in reference to the piceous coloration of body.

Bordontilla obscura, NEW SPECIES (Fig. 1D)

Diagnosis.—This species is readily distinguished from other females of the genus by the following characters: head and mesosoma ferruginous and the metasoma piceous, the dorsum of mesosoma and lateral margin of propodeum carinate and humeral carina angulate.

Description of Female.—Head, mesosoma and legs ferruginous. Metasoma piceous. T1 basally and S1 completely infuscated ferruginous. Vertex of head, pronotum, median band on mesonotum, and lateral spot on propodeum infuscated. Legs infuscated, femora and tibial base lighter. Pubescence brown on vertex of head and dorsum of mesosoma and metasoma. All sternites and apical fringe of T2-T5 with pale pubescence. Legs with dense fuscous pubescence.

Clypeus with posterior border moderately dentate, median region moderately gibbose, and laterally below antennal scape with a deep circular depression, median anterior region and lateral regions with long pale setae. First flagellomere as long as pedicel, terminal

flagellomere slightly longer than preceding segment, with apex obtusely angular. Gena sparsely punctate.

Mesosoma with disk of pronotum, mesonotum, dorsal and lateral faces of propodeum, and metapleura sparsely punctate and nitid. Humeri with angulate carina. A fine carina delimits pronotum from mesonotum and is connected by lateral carina to propodeal spiracle. Propodeal spiracle tuberculate. Propodeum with distinct sinuous lateral carina beginning at propodeal spiracle. Propleuron with long pale pubescence, dense and decumbent, impunctate. Mesopleura impunctate, anteriorly with pale decumbent pubescence.

Metasoma with T1-T2 sparsely punctate and with very sparse erect pubescence. T3-T6 with larger punctation and denser pubescence. S1 with median elevated carina, notched medially. S2-S6 with punctations, last with apex weakly truncate. Pygidial area glabrous, nitid and undefined laterally.

Length.—3.5 mm

Male.—Unknown

Holotype, ♀: Chile, Nuble Prov., Las Trancas, 19.5 km ESE, Recinto, 1250 m, 10.XII.1982-3.I.1983, Coll. A. Newton and M. Thayer (CNCI). **Paratype, 1**♀: Chile, Nuble Prov., Las Trancas, 19.5 km ESE, Recinto, 1250 m, 10.XII.1982-3.I.1983, Coll. A. Newton and M. Thayer (JPPC).

Discussion.—This species is similar to *B. xanthomaculata* and *B. nigra* with the humeral carinae angulate and the presence of lateral propodeal carinae. It is similar to *B. patagonica* in coloration, but differs from this species by the angulate humeral carina, the clypeus not as prominently tuberculate, second metasomal sternite smoothly concave (not depressed basally) and the piceous coloration of the metasoma.

Etymology.—From the *obscura* "dark," in reference to the infuscated regions on the mesosoma.

Bordontilla xanthomaculata, NEW SPECIES (Fig. 1C)

Diagnosis.—This species is readily distinguished from other females of the genus by the following characters: head and mesosoma stramineous and metasoma piceous with two lateral maculations of T2, the condition of the carina on the margin of mesonotum and angulate humeral carina.

Description of Female.—Coloration of head and mesosoma stramineous. S1 completely, T1 and S2 basally stramineous. T2-T6 and S3-S6 piceous. T2 with two stramineous round maculations situated laterally. Legs stramineous with infuscated joints. Pygidial area infuscated stramineous. Pubescence golden brown on vertex of head and dorsum of mesosoma and metasoma. All sternites of metasoma with pale pubescence. Legs with pale pubescence.

Clypeus with posterior border dentate, median region moderately gibbose, and laterally below antennal scape with a circular depression, median anterior region and lateral regions with long pale setae. First flagellomere slightly longer than pedicel, and terminal flagellomere slightly longer than preceding segment, with apex obtusely angular. Gena sparsely punctate.

Mesosoma with disk of pronotum, mesonotum, dorsal and lateral faces of propodeum, and metapleura sparsely punctate and nitid. Humeri with angulate carina. A fine carina delimits pronotum from mesonotum and is connected by lateral carina to propodeal spiracle. Propodeal spiracle tuberculate. Propodeum with indistinct lateral carina posterior to propodeal spiracle. Propleuron impunctate with long, pale, dense and decumbent pubescence. Mesopleura impunctate, anteriorly with pale, decumbent pubescence.

Metasoma with T1-T2 sparsely punctate and with sparse erect pubescence. T3-T6 with larger punctation and denser pubescence. S1 with median elevated carina. S2-S6 sparsely punctate, last with apex weakly truncate. Pygidial area glabrous, nitid and undefined laterally.

Length.—3 mm

Male.—Unknown

Holotype, ♀: Chile, Alto de Vilches, 70 km E Talca, 5.XII.1984-20.II.1985, Coll. S. and J. Peck (CNCI).

Discussion.—This species is similar to *B. obscura* and *B. nigra* by having the humeral carina angulate and the lateral margins of propodeum carinate. Coloration is similar to *B. cycloflava*, but differs from this species by the angulate humeral carina, the clypeus not as prominently tuberculate and second metasomal tergite with two maculations.

Etymology.— From the Greek *xantho* "yellow" and *maculata* "spotted," in reference to the stramineous maculations of the second metasomal tergite.

Bordontilla patagonica Fritz and Martinez (Fig. 1E)

Bordontilla patagonica Fritz and Martinez, 1975: 129 E

Distribution.—Argentina (Chubut Providence); Chile (Osorno Providence).

New Record.—Chile, Osorno Providence, Puyehue, N. P. Antillanca, 1200m, Nothofagus Tree Line, 16.II.1988, Coll. Lubomir Masner.

Discussion.—The holotype of *B. patagonica* has not been studied. The holotype currently resides in the Antonio Martinez Insect Collection (AMIC) in Salta, Argentina. This specimen, however, fits the description on all accounts.

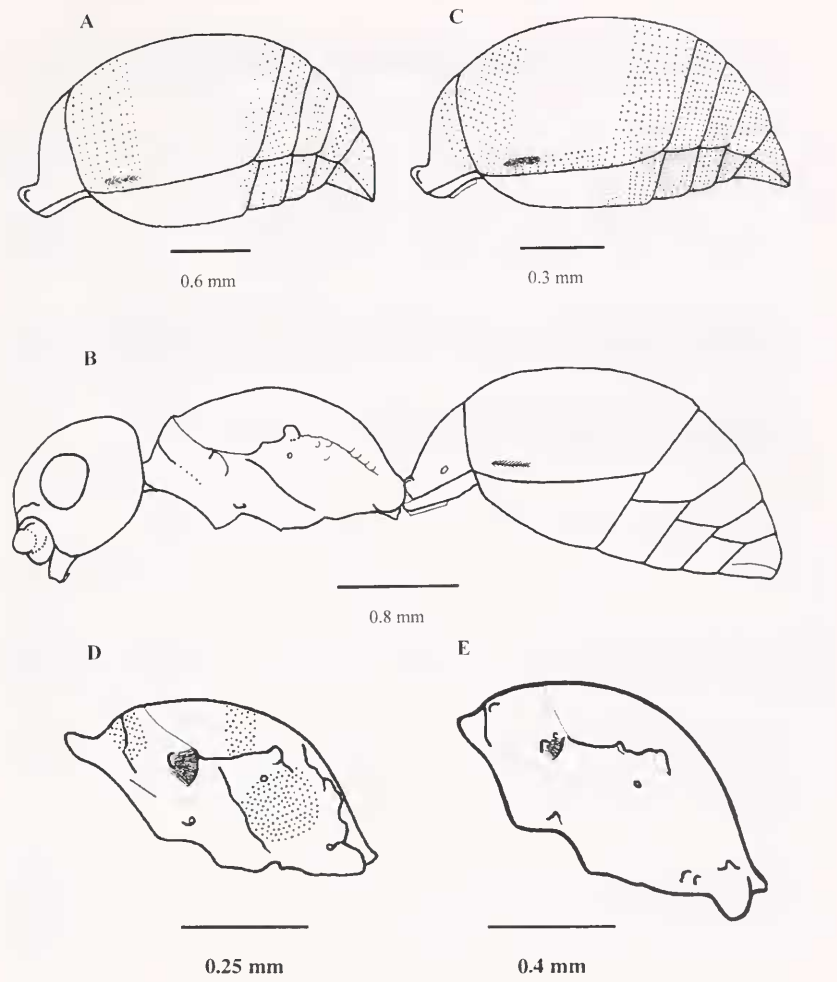

Figure 1. *A. Bordontilla cycloflava,* metasoma lateral view; B. *B. nigra,* lateral view (legs, antennae, and sculpture not shown); C. *B. xanthomaculata,* abdomen lateral view; D. *B. obscura,* thorax lateral view; E. *B. patagonica,* thorax lateral view.

KEY TO FEMALE SPECIES OF *BORDONTILLA*

1. Dorsum of mesosoma striate, with close punctation, appearing dull; mesosoma and metasoma piceous ..... *nigra*, sp. nov.
1'. Dorsum of mesosoma nitid, with sparse punctation; mesosoma not concolorous with metasoma 2

2. Mesosoma stramineous; metasomal segments 2-6 not concolorous 3
2'. Mesosoma ferruginous; metasomal segments 2-6 concolorous 4

3. Second metasomal segment with 2 stramineous maculations (Fig. 1C); humeral carina distinctly angulate ..... *xanthomaculata*, sp. nov.
3'. Second metasomal segment with 1 stramineous maculation (Fig. 1A); humeral carina not angulate ..... *cycloflava*, sp. nov.

4. Mesosoma red, metasoma metallic blue; humeral angles distinctly angulate; mesopleura nitid; propodeum not carinate laterally (Fig. 1E) ..... *patagonica* Fritz and Martinez

4'. Mesosoma red with dark spots laterally, metasoma piceous; humeral angles distinctly carinate; mesopleura finely striate; propodeum laterally carinate (Fig. 1D) ..... *obscura*, sp. nov.

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